ADOT PHOTOLOG

November 6, 2009

Capabilities & Data Integration

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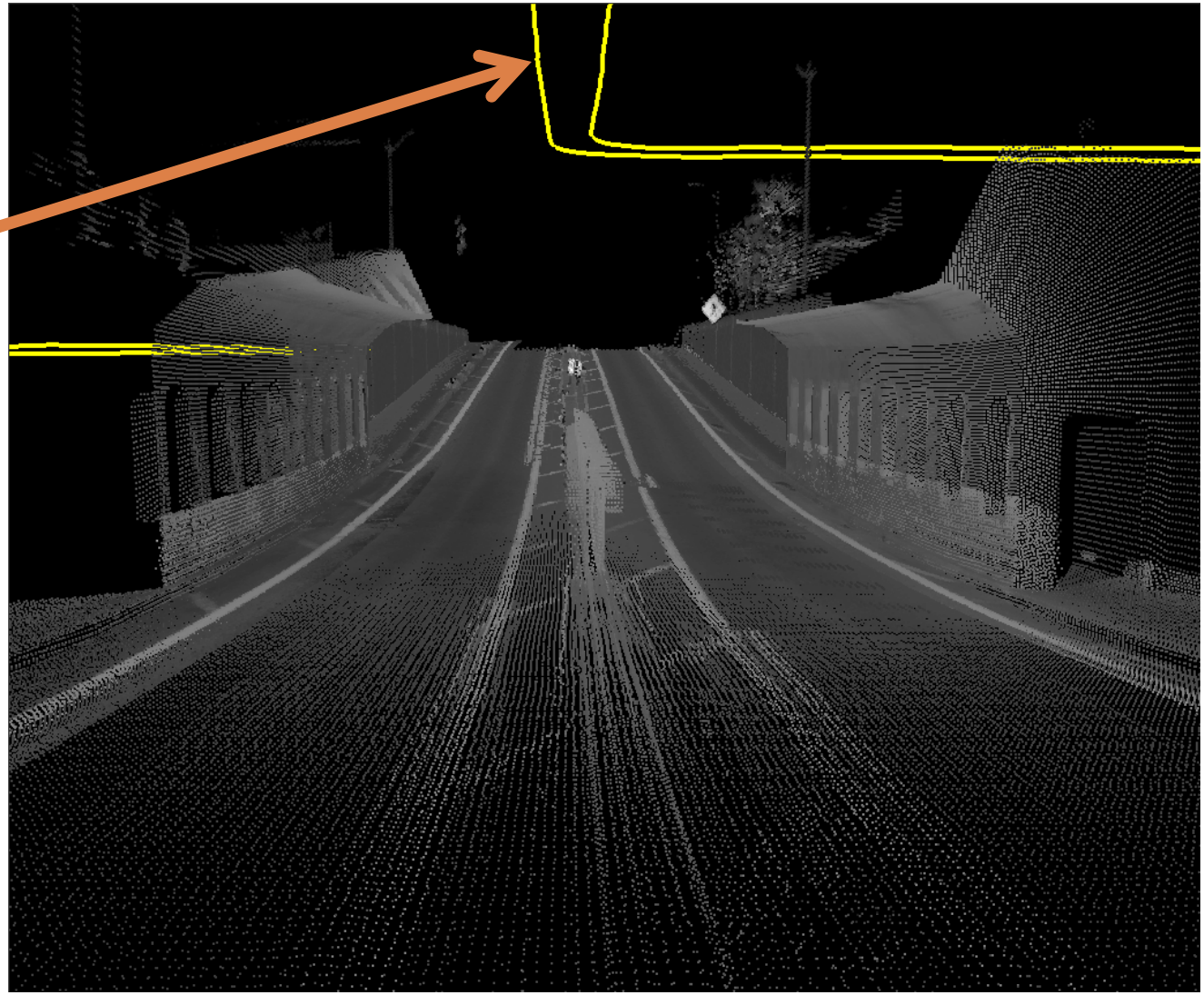
Capabilities & Data Integration

Hardware

- GPS - Absolute Positional (X,Y,Z) Accuracy
  - Real-Time GPS <=27 inches
  - Post-Processed GPS <4 inches
  - 65% - Our Initial Tests Are 90%
- Dual Hi-Def Cameras
  - Right And Left Facing – Slight Overlap
  - 2448 x 2048 Resolution (5MP) – Image Every 10m (32.8 feet)
  - .AVI Capture – Approx. 2.5mp .JPG Capture
- Dual LiDAR – Light Detection And Ranging
  - Right Facing – Vertical – Roadside Capture
  - Left Facing – Horizontal – Roadway Capture
  - Scan Rate - 75Hz
    - 65mph – 7cm b/w Each Successive Scan

Sample Imagery

Sample LiDAR Scan



Storage Requirements

- Annual Projected Data Storage
  - Total = 9.11TB
    - Imagery (.AVI, .JPG) =7.5TB
    - LiDAR = 1.57TB
    - .GPS Files = 26.90GB
  - Key Metrics
    - 4.83 million pictures
    - 45K and 800K image resolution
    - 343 MB/Mile – Includes all data: image, LiDAR and GPS

Deliverables

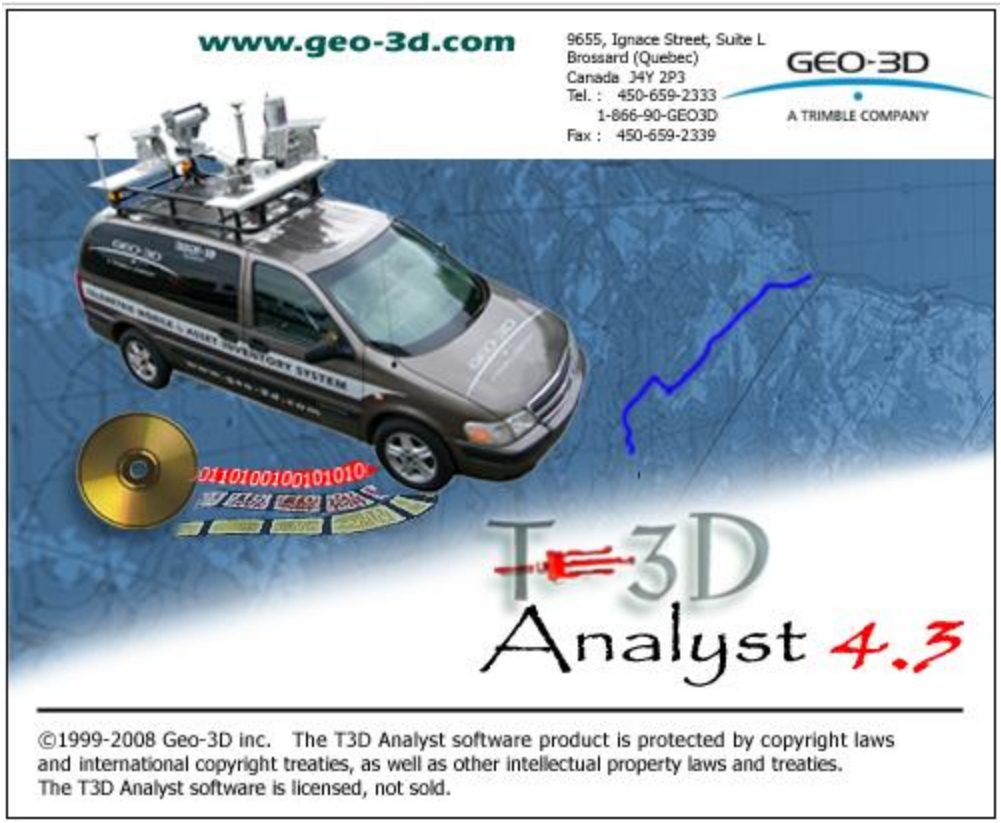
- Imagery
  - .JPG Creation For Distribution/Dissemination
    - 45KB And <= 800KB?
    - Banner Embedded In Image (e.g., Route Name, MP, Offset, etc.)?
  - .AVIs Will Remain Available
- LiDAR Point Cloud
  - Left Corridor Along Road
  - Road Profile

Sample Embedded Banner

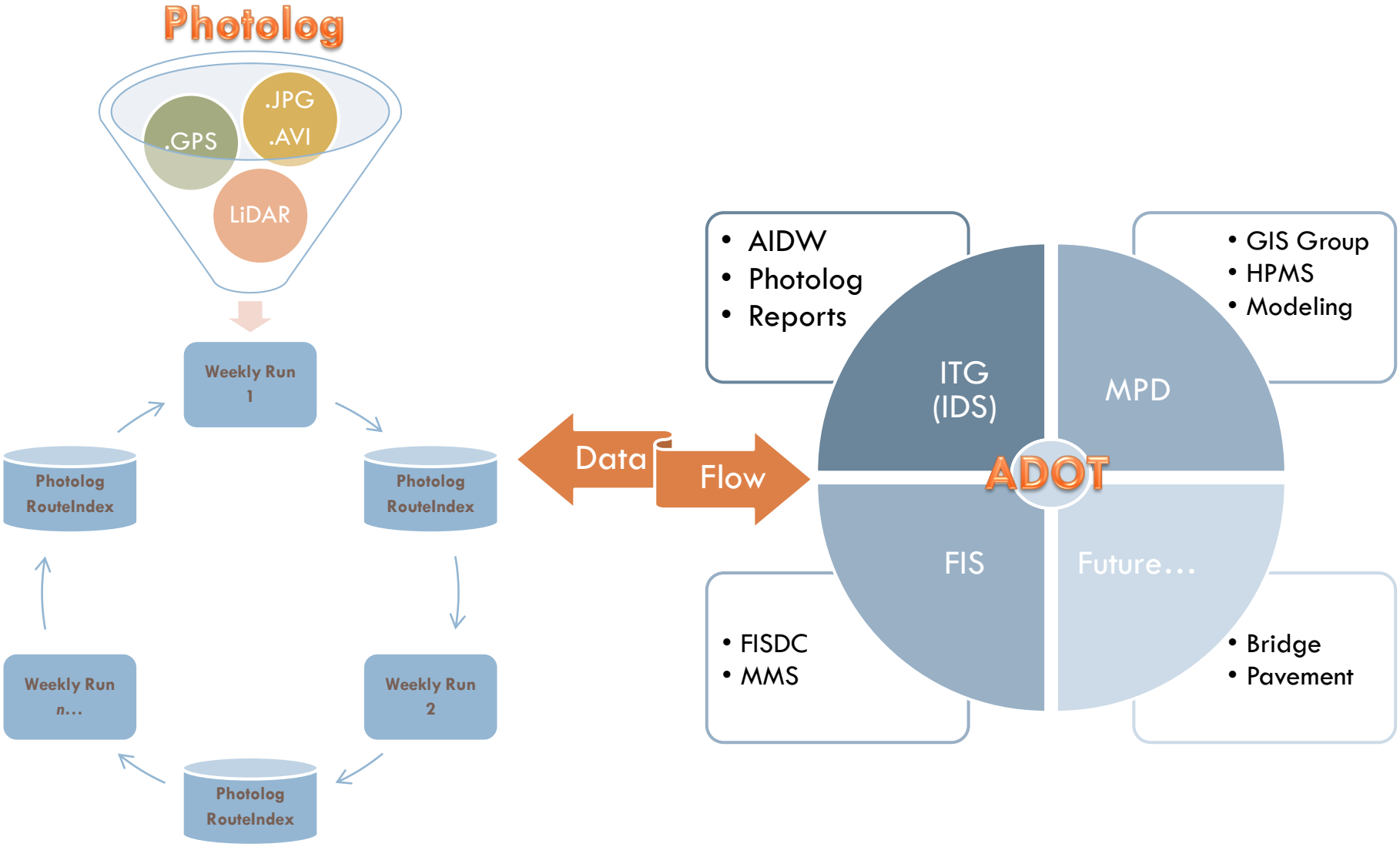
Downstream Capabilities

- Feature Extraction – 2 Methods
  - via LiDAR
    - Auto Sign Extraction
  - via Photogrammetry
    - Point-Based Features (e.g, Signs, Barrier and Guardrail End Treatments)
    - Polyline-Based Features (e.g., Guardrail, Retaining Walls, Cable-Barriers, Pavement Striping)
    - Polygonal Features (e.g, pavement resurfacing, gores)
  - Create/Populate Spatial File (e.g, .shp) Or Populate SQLServer/MSAccess Database Directly
- 6 Simultaneous/Floating Software User Licenses

T3D Analyst Software Demo



Photolog Data Flow/Integration



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